

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (page 2)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/DE2004/001466

International filing date (day/month/year)
07/08/2004

Priority date (day/month/year)
07/11/2003

International Patent Classification (IPC) or both national classification and IPC
F02D35/00, F02M25/08, F02D21/08

Applicant
Robert Bosch GMBH

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/

Authorized officer

Röttger, K

Facsimile No.

51322952559

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/DE2004/001466

Box No. II Priority

1. ☒ The following document has not yet been furnished:

☒ copy of the earlier application whose priority has been claimed (Rules 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rules 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Röttger, K

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/DE2004/001466

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 11	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 11	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 11	YES
	Claims		NO

2. Citations and explanations:

see supplementary page

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/DE2004/001466

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see supplementary page

Re: Point V

IAP20 Rec'd PCT/PTO 11 JAN 2006

1 In the present opinion reference is made to the following documents:

D1: DE 43 20 621 A (ROBERT BOSCH GMBH) January 5, 1995

D2: EP 1 106 813 A (BAYERISCHE MOTOREN WERKE AG) June 13, 2001

2 Independent Claims 1 and 7

Document D1 is considered to be the most proximate related art. It discloses a device for determining the mass flow via a tank venting valve in which the mass flow via the tank venting valve is determined from the throttle valve angle.

The object of independent Claim 1 differs therefrom in that a virtual throttle valve position is determined from the sum of all mass flows (tank venting, throttle valve, and exhaust gas recirculation). The virtual throttle valve position is used for calculating the mass flow via the tank venting valve.

The object of Claim 1 is thus novel (Article 33(2) PCT). The object to be achieved using the present invention may be viewed in that the accuracy of the calculation is improved.

The approach to this object proposed in Claim 1 of the present Application is based on inventive step (Article 33(3) PCT), since the rest of the related art does not indicate the use of such a virtual throttle valve angle.

Independent Claim 7 describes the method corresponding to the device of Claim 1 and is thus also novel and inventive.

3 Dependent claims

Claims 2-6 as well as 8-11 are dependent on Claim 1 and Claim 7, respectively, and thus also fulfill the PCT requirements for novelty and inventive step.

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Re: Point VIII.

Clarity (Article 6 PCT)

The use of "normalizing" as well as "normalizer" (among other things in Claims 1 and 7) creates an ambiguity (Article 6 PCT) since "normalizing" in everyday language refers to the fact that a value is based on a reference value. However, as far as it emanates from the Application, this appears not to have taken place.

Feasibility (Article 5 PCT)

The execution of the normalization, i.e., the calculation of the "normalized mass flow" is described in Figure 2 (the sum of the mass flows is converted into the "normalized mass flow" through division by different factors). However, it again does not indicate here the physical quantities on which these factors are based. In particular, the term "factor density" is unknown and cannot be assigned to any known parameter.

It appears that the Application does not describe the normalization procedure in such clarity that those skilled in the art could execute it. Therefore, the Application does not fulfill the requirements of Article 5 PCT.

Other remarks

- The use of the term "factor density" moreover creates an ambiguity in Claims 3, 8, and 10.
- Ambiguities arise in the description through the use of incorrect reference numerals. Among other things, reference numeral 62 is used for all types of mass flows (see, for example, page 6, lines 17-29).